Journal of Consulting and Clinical Psychology
1997, Vol. 65, No. 4, 547-559

Object Relations as a Predictor of Treatment Outcome With Chronic Posttraumatic Stress Disorder

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The role of object relations as a predictor of outcome was evaluated in inpatient posttraumatic stress disorder (PTSD) treatment. Cohort outcome at discharge on psychometric indices was mixed, with limited evidence of reliable or clinically significant change. Treatment was associated with an overall reduction in utilization of inpatient psychiatric and residential domiciliary services. However, moderate (vs. low) levels of object relations were predictive of reliable change outcome, independent of demographics, Axis II diagnosis, symptomatic severity, or early childhood or war zone trauma exposure. The findings suggest that consideration should be given both to the manner in which patients seeking treatment for PTSD are screened and matched with a range of treatment or rehabilitation services and to how treatment outcome is conceptualized beyond symptom reduction. Rehabilitation of chronic posttraumatic symptomatology and associated psychosocial impairment may be facilitated by assessment, treatment design, and client-treatment matching on the basis of multidimensional psychological indices.

Individual differences in response to overwhelming life events historically have been characterized as falling along a continuum from transient stress reaction to chronic posttraumatic stress disorder (PTSD) and comorbid Axis I disorders (Yehuda & McFarlane, 1995). Chronic PTSD also often involves profound psychosocial and Axis II characterologic impairment (Friedman & Rosenheck, 1996; Southwick, Yehuda, & Giller, 1993) and severe problems with the regulation of affect, consciousness, and bodily functioning (e.g., "complex PTSD"; van der Kolk et al., 1996). Chronic war-related PTSD in veterans is associated with high rates of psychiatric hospitalization, homelessness, vocational instability and unemployment, incarceration, divorce, anger dyscontrol, suicidality, substance abuse, and personality disorder (Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar, & Weiss, 1990; Southwick et al., 1993). Clinical descriptions of chronic war-related PTSD have identified posttraumatic personality changes involving impaired object relations (Parson, 1988). Chronic war-zone PTSD also is highly refractory to psychotherapy: Evaluations of multimodal inpatient treatment for chronic PTSD report mixed and, at best, weak gains, with much variability across patients (Fontana & Rosenheck, 1994; Funari, Piekarski, & Sherwood, 1991; Hammarberg & Silver, 1994; Hyer, Woods, Bruno, & Boudewyns, 1989; Johnson et al., 1996; Munley, Bains, Frazee, & Schwartz, 1994).

Although the results of these studies may call into question the utility of treating chronic PTSD, it may be the case that the limited success of trauma therapies has been the result of a failure to differentiate among a variety of posttraumatic syndromes. An aptitude-treatment interaction approach (Snow, 1991) might permit treatment matchings that maximize the clinical and economic efficacy of existing programs by screening in patients likely to benefit and routing other patients to alternative treatment options. Given the characterologic and self-regulatory deficits associated with chronic PTSD, we focused on *object relations* (Westen, 1991) as a key aptitude.

Object relations are the person's fundamental schemas for self and relationships, which are hypothesized to permit (or, if impaired, to interfere with) biopsychosocial self-regulation. Psychiatric patients with higher levels of object relations have been found to better tolerate stressors in the therapeutic process and maintain a positive working alliance (Hull, Clarkin, & Kakuma, 1993; Kivlighan, Marsh-Angelone, & Angelone, 1994; Piper, Azim, Joyce, & McCallum, 1993; Piper, Azim, Joyce, McCallum, Nixon, & Segal, 1991). Impaired object relations are a cardinal feature of personality disorders associated with poor working alliance and treatment outcome (Diguer, Barber, & Luborsky, 1993; Hoglund, 1993; Reich & Vasile, 1993). Al-

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We gratefully acknowledge the contributions of the participating veterans and our clinician raters Patricia Cason, Patricia Chandler, Sandra Hardin, Phyllis Kidd, Michael Stevens, Barbara Thacker, Kathryn Thomas, and Jamie Zabukovec. We also thank Matthew Friedman, Paula Schnurr, and Annmarie McDonagh-Coyle for their comments on an earlier draft of the article.

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though personality disorder status, psychiatric severity, and interpersonal maladjustment all correlate with object relations capacities (Luborsky et al., 1993), object relations are a consistent predictor of therapeutic alliance and outcome (Piper, Azim, Joyce, et al., 1991; Piper, Azim, McCallum, & Joyce, 1990; Piper, Joyce, Azim, & Rosie, 1994). Object relations also are consistent with the dimensional approach to characterologic assessment (Livesley, Schroeder, Jackson, & Jang, 1994), thus possibly capturing outcome variance better than categorical Axis II diagnoses.

In this study, we assessed treatment outcome with chronically psychosocially impaired male war veterans seeking inpatient PTSD treatment and we evaluated the predictive capacity of a measure of object relations after controlling for demographics, initial symptomatic severity, personality disorder diagnosis, early childhood trauma exposure, severity of war-zone trauma exposure, and presence or absence of a diagnosis of war-zone related PTSD. We assessed not only symptomatic change but also positive adjustment and psychiatric services utilization to adequately span the range of possible treatment outcomes (Johnson et al., 1996).

Method

Participants

Seventy-four of 75 consecutive admissions to a Department of Veterans Affairs inpatient PTSD Residential Rehabilitation Program (PRRP) consented to participate. All participants were male, ranging in age from 28 to 67 (M = 48, SD = 5.9) and education from 10th grade to master's level (M = 12.5 years, SD = 1.4). Most (82%) were Caucasian, with a subgroup of Native American (15%) and Latino (3%) veterans. Most (90%) served in Vietnam. All participants had definite war trauma exposure and a history of chronic severe psychosocial impairment. All had extensive histories of alcohol–substance abuse but were abstinent at the outset of treatment.

Procedure

At entry to inpatient treatment, participants were assessed by (a) structured interviews for PTSD, Axis I and Axis II diagnoses, history of early childhood trauma, and object relations level, and (b) questionnaires for severity of combat exposure, severity of PTSD, dissociative, depressive, anxiety, anger, sleep, and psychiatric symptoms, and level of perceived self-control and quality of life. At the conclusion of inpatient treatment, a posttest measure of all questionnaires except that for combat exposure was obtained. The Department of Veterans Affairs computerized database for "clinic visits" was accessed to obtain data on inpatient psychiatry and homeless domiciliary services utilization for the year before and the year after PRRP treatment.

Treatment

The PRRP provided intensive multimodal care in a 3-month inpatient stay.[1] Case management and weekly individual counseling were provided for each participant by one of six therapists experienced in the treatment of chronic PTSD (M = 9 years). Individual psychotherapy focused on developing more successful here-and-now coping skills and life plans, but also typically included individualized trauma focus work through variants of direct therapeutic exposure. Aftercare planning began before admission and continued throughout treatment with coordination of a range of key social, vocational, and therapeutic resources such as family members, outpatient care providers, substance abuse support groups, employers, vocational rehabilitation and employment specialists, housing and social service agencies and programs, veterans service officers and veterans benefits representatives, and cultural, ethnic, or spiritual advisors and support groups.

Group psychotherapy was conducted four times weekly in a process group, in which two staff cotherapists and between 6 and 10 veterans explored linkages between current life problems or goals and formative social learning experiences or life scripts from childhood, military service, and adulthood. The three primary foci of process group were to assist each veteran in (a) incorporating trauma exposure in a narratively coherent and developmentally meaningful autobiography, to provide affective validation, experiential reintegration, and patient-initiated cognitive restructuring; (b) experimentally applying problem-solving, anger management, communication, and relapse prevention skills in an emotionally charged but safe milieu; and (c) developing a reliable ongoing peer social support system.

An array of psychoeducational classes and in vivo experiences was programmed on a daily or weekly basis, covering the following core areas of PTSD rehabilitation: trauma and health; family and intimate relationships; sleep hygiene; emotion regulation; management of stress, anger, and PTSD symptoms; reentry to work or school; pleasure and recreation; the sobriety lifestyle; medications; loss and grieving; spirituality; personal journaling; and relapse prevention. Psychoeducation was structured by the following sequence of learning objectives: (a) to provide new knowledge, (b) to initiate a commitment to change, (c) to identify areas for personal change with special reference to addressing the deleterious effects of chronic PTSD, (d) to teach new skills for initiating and maintaining personal change, and (e) to integrate all these components of change into an internally locused process for living with PTSD. Individualized goals were built around a shared understanding of PTSD as a fundamental change in biopsychosocial functioning that cannot be "cured" or "undone" but can be modified and coped with over time. Behavioral concepts of a fear-based associational network (Foa, Riggs, Massie, & Yarczower, 1995) and dynamic–existential concepts of psychic defenses (Lifton, 1979) were used within Horowitz's (1986) framework of cyclical intrusion–hyperarousal and avoidance–numbing, to guide veterans in their application of skills and their engagement in the change process.

Measures

Psychometric outcome measures. We used the following self-report questionnaire measures with demonstrated psychometrics (i.e., internal consistency, temporal stability, convergent or criterion validity). To assess PTSD severity, we used the Mississippi Scale for Combat-Related PTSD (Keane, Caddell, & Taylor, 1988), the Penn PTSD Scale (Hammarberg, 1992), and the impact of Event Scale (scored for two subscales, Intrusive Reexperiencing symptom severity [IES-I] and Avoidance and Emotional Numbing symptom severity [IES-A]; Horowitz, Field, & Classen, 1993). To assess comorbid psychiatric symptomatology, we used the Dissociative Experiences Scale (Dissociation; Bernstein & Putnam, 1986), the State–Trait Anxiety Inventory Trait Anxiety score (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), the Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988), the Internalized Anger (AX-In) and Externalized Anger (AX-Out) subscales of the State–Trait Anger Expression Inventory (Spielberger, 1988), the Multidimensional Anger Inventory (Anger; Siegel, 1985), the Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989), and the Global Severity Index of the Symptom Checklist–90–Revised (SCL-GSI). To assess positive resources, we used the

[1] A clinician guide to the multimodal treatment protocol is available from Julian D. Ford.

Self-Control Schedule (Rosenbaum, 1980) and the Quality of Life Inventory (Frisch, Cornell, Villanueva, & Retzlaff, 1992).

Service utilization outcome measures. We used Department of Veterans Affairs computerized database records to determine the number of inpatient psychiatric or substance abuse hospitalizations and the total lengths of stay for each participant in (a) the year before admission to the PRRP and (b) the year after discharge from the PRRP. Similarly, database records were used to determine the lengths of stay in a homeless domiciliary for each participant during the years before and after PRRP inpatient treatment.

Object relations clinician rating (OR-C). Westen's (Barends, Westen, Leigh, Silbert, & Byers, 1990; Westen, Barends, Leigh, Mendel, & Silbert, 1990) social cognition object relations system is an interview-based coding protocol tapping the following four components of object relations, each rated on a 5-point scale with specific anchors. Complexity of representations of people (Component 1) refers to recognizing emotions, thoughts, motives, and traits as multifaceted, distinct to each individual, and potentially integrated into a coherent personality. Affect tone of relationship paradigms (Component 2) refers to the experienced valence of emotions associated with relationships, ranging from extremely malevolent to realistically positive. Capacity for emotional investment in relationships and moral standards (Component 3) refers to the person's commitment to integrity, personal responsibility, altruism, and empathy in dealing with other people and in upholding moral standards. Understanding of social causality (Component 4) refers to the person's recognition that psychological agency has a positive potential in determining the course of social events.

Independent ratings for each participant were conducted by trios of trained clinicians on the basis of a 60- to 90-min structured psychosocial interview conducted separately by each clinician at the outset of PRRP treatment. After following the Structured Clinical Interview for the *DSM–III,* patient version (SCID-P; Spitzer, Williams, Gibbon, & First, 1990a) Overview and Life Chart format to review the participant's major relationships and life experiences from birth to present, each clinician made independent OR-C ratings. One rating was obtained for each participant on each of the four OR-C categories by averaging the 3 raters' ratings. Interrater reliability for each OR-C category was calculated with the Spearman–Brown version of the intraclass correlation coefficient, yielding the following estimates of the dependability of the average scores for the four OR-C components: .75, .63, .69, .72 for Components 1–4, respectively (all $p < .01$). Ratings of the four object relations categories were highly intercorrelated (range of rs, .78–.91, $p < .001$), so we summed them and divided by four to produce a single 5-point object relations composite score (OR-C) for each participant. The OR-C score was internally consistent ($\alpha = .95$; mean item total score, $r = .89$). Retest reliability for a sample of 20 participants rated at a 15- to 30-day interval was $r = .88$. Evidence of convergent validity also was obtained by correlating OR-C ratings with independent object relations ratings from the Thematic Apperception Test (TAT; $r = .84$, $p < .001$).

SCID war-zone-related PTSD (SCID-PTSD) diagnosis. Julian D. Ford utilized the SCID-PTSD module to establish war-related PTSD diagnoses. In 20 randomly selected cases, one of two psychiatrists conjointly conducted the PTSD interview, and her diagnostic finding was identical in all but one case, yielding a reliability (κ) of .91 ($p < .001$). Thirty participants (40%) failed to qualify for current (or lifetime) military-related PTSD. All participants met Criterion A of the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM–IV;* American Psychiatric Association, 1994), having experienced war-zone events in which they witnessed or were directly at risk for death or severe injury and having experienced intense fear, helplessness, or horror during or shortly after these events. All participants met Criterion C, experiencing three or more of the seven symptoms of avoidance, emotional numbing, and social detachment in the past month. Those who failed to qualify for military-related PTSD either did not report (a) at least one distinct military-related Criterion B intrusive reexperiencing symptom ($n = 17$), (b) at least two Criterion D symptoms of hyperarousal and hypervigilance ($n = 6$), or (c) sufficient Criterion B and Criterion D symptoms ($n = 7$). All veterans failing to meet PTSD criteria reported severe PTSD-like symptoms, but instead of clear intrusive reexperiencing or hypervigilance they tended to describe a morbid preoccupation with war in general, violence, death, or feeling psychically "damaged."

Additional Axis I and Axis II diagnoses. The SCID-P and Structured Clinical Interview for *DSM–III–R, personality* disorders (SCID-II; Spitzer, Williams, Gibbon, & First, 1990b) modules were coded by Julian D. Ford, with independent corroboration by one of two psychiatrist raters in a different random sample of 20 cases. Three Axis I diagnoses occurred often: lifetime alcohol or substance use disorder (91% prevalence, $\kappa = .91$; $p < .001$), current major depression (42% prevalence, $\kappa = .81$; $p < .001$), and current alcohol or substance use disorder in partial remission (25% prevalence, $\kappa = .69$; $p < .001$). Axis II diagnoses were present for 38% of participants, primarily in the form of antisocial personality disorder (23% prevalence, $\kappa = .67$; $p < .001$) but also as other Axis II diagnoses (15% prevalence, $\kappa = .65$; $p < .01$). Participants qualifying for any Axis II diagnosis were coded as positive for personality disorder diagnosis.

War-zone trauma exposure. All participants reported exposure to war-zone trauma that was sufficient to qualify for Criterion A of the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., revised; *DSM–III–R;* American Psychiatric Association, 1987; 4th ed.; *DSM–IV;* American Psychiatric Association, 1994), including rocket, mortar, artillery, or "sapper" attacks; firefights on the ground, in the air, and on rivers; and witnessing the effects of or participating in grotesque or abusive violence. For program evaluation purposes, a dichotomous version of Keane, Fairbank, Caddell, Zimering, Taylor, and Mora's (1989) Combat Exposure Scale was utilized to quantify severity of war-zone trauma exposure by counting one point for each of seven potential types: hazardous duty; under enemy fire; surrounded by enemy; more than 25% of soldiers in unit killed, wounded, or missing in action; seeing others hit by incoming rounds; and danger of death or injury. The War-zone Trauma Exposure scale was internally consistent ($\alpha = .88$; mean item total score, $r = .68$), and retest stability was demonstrated over a 1- to 3-month period ($n = 14$, $r = .95$, $p < .001$). Scores ranged from 1 to 7, with a mean of 5.5 ($SD = 2.1$) reflecting high levels of exposure. Independent clinician ratings on the same seven items were obtained through a detailed military history for a sample of 24 participants, and they showed good correspondence with the war-zone trauma exposure self-ratings ($r = .82$, $p < .001$).

Early childhood trauma exposure. On the basis of a detailed developmental and psychosocial history interview, a PRRP clinician rated the presence or absence of each of the following 10 discrete types of trauma exposure in early childhood (age range, 0–6 years), derived from lifetime trauma assessments developed by Resnick, Kilpatrick, Dansky, Saunders, and Best (1993) and Weaver and Clum (1993): sexual abuse; physical abuse; witnessing or participating in intentional violence–killing; receiving a violent threat to one's life; directly experiencing a life-threatening natural or human-made disaster or accident; witnessing other severe or violent injury or death; experiencing a close friend's or family member's murder or death caused by driving under the influence of alcohol (DUI). If any traumatic event had occurred, the participant was classified as positive for early trauma. Two clinicians independently rated 32 participants, agreeing on early trauma classification for all but three cases ($\kappa = .85$). The latter cases were coded as positive on the basis of definite information of early childhood traumatization recorded by one of the independent raters. Early childhood traumatization was identified in 42 cases (55%), primarily severe physical abuse ($n = 32$), sexual abuse ($n = 4$), or witnessing family violence or experiencing traumatic early separations (e.g., death of parents; $n = 14$).

Results

Nine self-report pretest measures were significantly intercorrelated: the Mississippi Scale for Combat-Related PTSD, the Penn PTSD Scale, IES-I, STAI, BDI, SCL-GSI, Quality of Life Inventory, the Anger measure, and AX-In. A median correlation of .43 indicated moderate collinearity (i.e., 18% shared variance) but substantial unique variance. Five pretest measures (IES-A, the Dissociation measure, the Self-Control Schedule, Pittsburgh Sleep Quality Index, and AX-Out) were uncorrelated with all other variables. It appears that the outcome measures should be treated as independent indices.

Only one demographic variable, education, correlated significantly ($p < .05$) with more than one other pretest measure: OR-C ($r = .25$), personality disorder ($r = -.29$), and early trauma ($r = .27$). Therefore, education level was entered as a variable in subsequent predictive analyses.

Mean raw score changes reported by the whole sample were quite small (see Table 1), with very small effect sizes typically on the order of 0.05 to 0.15 in standard deviation units. The percentage of participants who achieved reliable change on each measure was calculated with Jacobson and Truax's (1991) formula based on the standard error of difference between pretest and posttest scores. Reliable gains were achieved on each outcome measure by between 13% and 38% of the participants (see Table 2). Clinically significant change was further assessed by setting a cutting point at the midpoint between the distributions of scores on each measure for nonclinical versus clinical samples, and determining whether participants' scores (which were in the dysfunctional range in 95% of all cases at pretest) moved to the "functional" range (Jacobson & Truax, 1991; Kendall & Grove, 1988). Nonclinical means and standard deviations came from comparison samples described in the test development reports cited for each questionnaire. Except for the Mississippi and Penn measures, the nonclinical comparison samples were not exclusively male veterans, typically comprised both men and women whose military status was not described. The racial–ethnic data reported for these comparison samples also did not describe the inclusion of Native Americans, who constitute a substantial subgroup in our sample. Although the optimal approach to developing normative comparison standards for clinical significance would use norms derived from samples equivalent to the present study group on these and other relevant demographic variables, in the absence of ideal comparisons we opted to use data samples that offered the best available approximation to our participants' characteristics.

Not surprisingly for this chronically impaired population (Friedman & Rosenheck, 1996), most participants' questionnaire scores (88%) failed to move into the functional range. When a score moved into the functional range, substantial absolute change occurred as well, thus meeting the reliable change criterion as well. Rates of clinically significant improvement on the self-report measures varied from 0% to 29%, with the highest rates for the Dissociation and Anger measures and the Self-Control Schedule (i.e., 25%–29%). Across all outcome measures, a repeated measures multivariate analysis of variance (MANOVA) showed an increase in the frequency of nonclinical range scores at posttest versus pretest, Hotellings' $F(16, 44) = 5.5$, $p = .0001$. Clinically significant deterioration was uncommon, occuring for no more than 3% of participants on any measure. Despite low rates of clinically significant change on individual measures, 38% of participants made clinically significant gains on at least 3 of the 14 self-report measures.

Clinical significance of service utilization data was estimated conservatively as movement from any inpatient or domiciliary utilization in the pretest year to zero utilization during the posttest year. Most (77%–90%) service-utilizing participants did not use these services in the posttest year. Two (3%) participants increased utilization from the pretest to posttest years.

Overall, the reduction in utilization of inpatient psychiatric services from the pretreatment year's rate of 45% to the posttreatment year's rate of 12% was statistically significant, $\chi^2(1, N = 74) = 18.7$, $p < .001$, and the median length of stay in psychiatric inpatient units decreased from 9.5 to 0 days. The median length of stay for participants who actually utilized inpatient psychiatric services in either year declined from 28 to 19 days. The median number of psychiatric inpatient admissions was 0 in both the pretreatment and posttreatment years, and 12% of participants were hospitalized in both years. Only one of the large group (i.e., 45% of the total sample) of participants who had not been admitted to a psychiatric inpatient unit in the pretreatment year was admitted in the posttreatment year.

Overall, the reduction in utilization of homeless domiciliary services from the pretreatment year's rate of 39% to the posttreatment year's rate of 18% was statistically significant, $\chi^2(1, N = 74) = 12.7$, $p < .001$, but (because most participants did not utilize domiciliary services) the median length of stay in domiciliary residential units was 0 days in both pretreatment and posttreatment years. However, the median length of stay for participants who actually utilized domiciliary services in either year declined from 160 to 96 days. Most participants (59%) did not utilize domiciliary services in either test year. One in 7 (16%) participants utilized domiciliary services in both years, and 1 participant who had not resided in a domiciliary in the year before PRRP treatment did so in the posttreatment year. Almost 1 in 4 (24%) participants moved from some domiciliary utilization in the pretreatment year to none in the posttreatment year—more than half (60%) of the participants who had utilized domiciliary services at all during the pretreatment year. Thus, most participants showed substantial declines in utilization of inpatient psychiatric and residential domiciliary services in the year after PRRP inpatient treatment.

OR-C as a Predictor of Self-Report Treatment Outcome

For treatment completers, controlling for the effects of pretest score, OR-C correlated significantly with posttest scores for all self-report PTSD measures ($r_p = -.53$ to $-.60$, $p < .001$), both measures of positive psychosocial functioning (i.e., Quality of Life Inventory, $r_p = .62$, Self-Control Schedule, $r_p = .43$; $p < .01$), three psychiatric symptom questionnaires (i.e., STAI, SCL-GSI, and Anger measure; $r_p = -.30$ to $-.49$, $p < .01$), and domiciliary utilization ($r_p = -.28$, $p < .05$). Personality disorder diagnosis correlated significantly with pretest-adjusted posttest scores for the Mississippi, Penn, IES-A, Anger, Quality of Life, and Domiciliary utilization measures. However, when the effect of OR-C was partialed out, these correlations were no longer significant (i.e., $-.13 < r_p < .13$; $p > .15$). By

Table 1
Means (and Standard Deviations) for Pretest and Posttest Outcome Measure Scores

Measure and time	Total sample (n = 74)	ModOR/SCID-PTSD (n = 28)	LoOR/SCID-PTSD (n = 31)	LoOR (n = 15)
PTSD measures				
Mississippi Scale				
Pretest	126.0 (17.0)	130.0 (15.0)	127.0 (18.0)	121.0 (18.0)
Posttest	124.0 (15.0)	118.0 (13.0)	130.0 (15.0)	127.0 (15.0)
Penn PTSD Scale				
Pretest	49.5 (10.0)	52.0 (11.0)	53.0 (8.0)	45.0 (10.0)
Posttest	47.0 (10.0)	43.0 (9.0)	52.0 (6.0)	48.0 (10.5)
IES-I				
Pretest	29.0 (6.0)	29.0 (5.0)	29.0 (6.0)	28.0 (7.0)
Posttest	28.0 (6.0)	25.0 (6.0)	29.0 (5.0)	31.0 (5.0)
IES-A				
Pretest	28.0 (6.0)	27.0 (6.0)	30.0 (7.0)	29.0 (5.0)
Posttest	28.0 (5.0)	24.0 (7.0)	29.0 (8.0)	32.0 (4.0)
Psychiatric symptoms				
Dissociation				
Pretest	35.0 (17.0)	35.0 (21.0)	28.0 (15.0)	32.0 (17.0)
Posttest	28.0 (14.0)	28.0 (15.0)	33.0 (14.0)	26.0 (14.0)
STAI				
Pretest	60.0 (8.0)	62.0 (8.0)	62.0 (11.0)	60.0 (7.0)
Posttest	58.0 (4.0)	56.0 (9.0)	62.0 (12.0)	58.0 (8.0)
BDI				
Pretest	28.0 (9.0)	29.0 (10.0)	30.0 (8.5)	26.0 (9.0)
Posttest	24.5 (9.0)	24.0 (9.5)	28.0 (8.5)	24.0 (8.0)
SCL-GSI				
Pretest	2.4 (0.6)	2.4 (10.0)	2.6 (0.9)	2.4 (0.8)
Posttest	2.1 (0.7)	2.0 (0.6)	2.5 (0.9)	2.2 (0.6)
Anger				
Pretest	39.5 (9.5)	44.0 (8.0)	37.0 (7.0)	37.0 (10.5)
Posttest	36.0 (9.0)	36.5 (8.5)	35.0 (9.0)	36.0 (10.0)
Psychosocial functioning				
Quality of Life Inventory				
Pretest	−6.4 (0.3)	−1.1 (0.4)	−1.7 (0.5)	−1.5 (0.4)
Posttest	−0.3 (0.4)	0.9 (0.4)	−1.0 (0.4)	−1.3 (0.4)
Self-Control Schedule				
Pretest	10.0 (14.0)	10.0 (12.0)	2.0 (10.0)	14.0 (14.0)
Posttest	19.0 (14.0)	28.0 (12.0)	10.0 (12.0)	16.0 (13.0)
Pittsburgh Sleep Quality Index				
Pretest	13.6 (4.0)	14.1 (3.8)	13.1 (4.3)	13.2 (4.0)
Posttest	12.7 (4.1)	13.1 (4.6)	12.6 (4.0)	12.2 (3.2)
AX-In				
Pretest	24.0 (5.0)	26.0 (4.0)	22.0 (4.0)	23.0 (4.0)
Posttest	22.0 (4.0)	22.0 (4.0)	22.0 (5.0)	22.0 (4.0)
AX-Out				
Pretest	27.0 (5.0)	28.0 (5.0)	28.0 (5.0)	27.0 (5.0)
Posttest	26.0 (5.0)	25.0 (4.0)	26.0 (3.0)	26.0 (5.0)
Utilization				
Admissions				
Pretest	0.8 (0.9)	0.5 (0.6)	1.0 (1.0)	1.0 (1.0)
Posttest	0.2 (0.5)	0.1 (0.3)	0.4 (0.4)	0.2 (0.6)
Psy LOS				
Pretest	16.0 (20.0)	10.0 (14.0)	27.0 (23.0)	17.0 (21.0)
Posttest	4.0 (22.0)	1.0 (2.0)	2.0 (5.0)	9.0 (34.0)
Dom LOS				
Pretest	67.0 (99.0)	32.0 (70.0)	77.0 (116.0)	94.0 (106.0)
Posttest	22.0 (59.0)	8.0 (32.0)	38.0 (100.0)	27.0 (50.0)

Note. ModOR/SCID-PTSD = moderate object relations score and diagnosis of war-zone-related posttraumatic stress disorder (PTSD) on the Structured Clinical Interview for the *DMS–III*, patient version; LoOR/SCID-PTSD = low object relations score and diagnosis of war-zone-related PTSD on the SCID; LoOR = low object relations score but diagnosed as not having war-zone-related PTSD on the SCID; Mississippi Scale = Mississippi Scale for Combat-Related PTSD; IES-I = Impact of Events Scale, Intrusive Reexperiencing subscale; IES-A = Avoidance and Emotional Numbing subscale of the IES; Dissociation = Dissociative Experiences Scale; STAI = State–Trait Anxiety Inventory, Trait score; BDI = Beck Depression Inventory; SCL-GSI = Symptom Checklist–90, Global Severity Index; Anger = Multidimensional Anger Inventory; AX-In = State–Trait Anger Expression Inventory, Internalized Anger subscale; AX-Out = State–Trait Anger Expression Inventory, Externalized Anger subscale; Admissions = number of inpatient admissions to Veterans Affairs (VA) Medical Center psychiatric or substance abuse units in the year before (Pretest) or the year after (Posttest) admission to the PTSD Residential Rehabilitation Program (PRRP); Psy LOS = total length of stay (in days) in the VA Medical Center inpatient psychiatric or substance abuse units in the year before (Pretest) or the year after (Posttest) PRRP treatment; Dom LOS = total length of stay (in days) in the VA homeless domiciliaries in the year before (Pretest) or the year after (Posttest) PRRP treatment.

Table 2
Reliable Change Outcomes

Measure	% exceeding cutoff for reliable change				χ^2 (2) for all groups	χ^2(1) for:	
	Total sample	ModOR PTSD	LowOR PTSD	LowOR		ModOR PTSD vs. LowOR PTSD	ModOR PTSD vs. LowOR
Mississippi Scale	24	50	7	3	18.6****	7.5***	14.3****
Penn PTSD Scale	22	50	0	3	21.7****	10.5****	14.3****
IES-I	25	54	7	3	20.8****	8.5***	16.0****
IES-A	13	29	7	0	10.2***	2.9*	8.7***
Dissociation	16	19	29	0.7	3.3	0.4	1.6
STAI	28	54	14	0	13.8***	6.5***	16.9****
BDI	28	37	0	38	2.2	2.1	0.5
SCL-GSI	28	57	16	3	20.9****	6.8***	17.8****
Anger	38	54	23	26	5.1	3.0*	4.0**
Quality of Life Inventory	37	57	28	19	8.8***	3.1*	8.5***
Self-Control Scale	25	54	14	0	21.7****	6.5***	19.3****
Pittsburgh Sleep Quality Index	19	10	28	22	2.2	2.0	1.3
AX-In	38	67	17	19	16.1****	13.2****	12.7****
AX-Out	18	14	17	22	0.7	0.0	1.1
Admissions	16	4	19	14	4.4	2.2	0.3
Psy LOS	30	26	50	27	3.4	2.0	3.3
Dom LOS	24	15	23	31	3.1	1.7	2.4

Note. ModOR PTSD = moderate object relations scores and diagnoses of war-zone-related posttraumatic stress disorder (PTSD) on the Structured Clinical Interview for the *DSM–III,* Patient version (SCID); LowOR PTSD = low object relations scores and SCID diagnoses of war-zone-related PTSD; LowOR = low object relations scores but negative for a SCID diagnosis of war-zone-related PTSD; Mississippi Scale = Mississippi Scale for Combat-Related PTSD; IES-I = Impact of Events Scale, Intrusive Reexperiencing subscale; IES-A = Avoidance and Emotional Numbing subscale of the IES; Dissociation = Dissociative Experiences Scale; STAI = State–Trait Anxiety Inventory, Trait score; BDI = Beck Depression Inventory; SCL-GSI = Symptom Checklist-90, Global Severity Index; Anger = Multidimensional Anger Inventory; AX-In = State–Trait Anger Expression Inventory, Internalized Anger subscale; AX-Out = State–Trait Anger Expression Inventory, Externalized Anger subscale; Admissions = number of inpatient admissions to Veterans Affairs (VA) Medical Center psychiatric or substance abuse units in the year before PTSD Residential Rehabilitation Program (PRRP) treatment (Pretest) or the year after PRRP treatment (Posttest); Psy LOS = total length of stay (in days) in VA Medical Center inpatient psychiatric or substance abuse units in the year before (Pretest) or the year after PRRP treatment (Posttest); Dom LOS = total length of stay (in days) in VA homeless domiciliaries in the year before (Pretest) or the year after (Posttest) PRRP treatment.
* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

contrast, after partialing out the personality disorder diagnosis' effect, all correlations between OR-C and pretest-adjusted posttest scores remained significant or nearly so (i.e., domiciliary utilization, $r_p = -.19$, $p = .06$; Anger measure, $r_p = -.16$, $p = .10$). OR-C thus accounts for unique variance in outcome independent of personality disorder diagnosis.

OR-C also accounts for variance in treatment outcome not accounted for by early childhood or war-zone trauma exposure or by SCID-PTSD diagnosis. Partialing out the effects of early trauma, war-zone trauma, and SCID-PTSD did not prevent the correlations between OR-C and pretest-adjusted posttest scores from achieving statistical significance, with one exception (i.e., $r_p = -.15$, $p = .10$, for OR-C with the Anger measure, partialing out SCID-PTSD's effect).

Predictive Capacity of an Empirical Typology Based on OR-C and SCID-PTSD Diagnosis

OR-C scores were bimodally distributed, and a cluster analysis using OR-C as the criterion resulted in a two-cluster solution with a highly significant fit, $F(1, 72) = 331.7$, $p < .0001$. Final cluster centers showed a solution with two distinct subgroups: a moderate OR-C group ($n = 28$; $M = 3.68$, $SD = 0.59$ on the 5-point OR-C scale) and a low OR-C group ($n = 46$; $M = 2.05$, $SD = 0.63$ on the 5-point OR-C scale). Westen, Lohr, Silk, Gold, and Kerber (1990) and Barends et al. (1990) have reported ratings from their earlier version of this object relations code, based on TAT or interview data, on which nonclinical men and women tended to score approximately 3.0 (*SD* range, 0.39–0.57). They found clinically depressed patients or those with borderline personality disorder to score much lower, with means of approximately 2.5 (*SD* range, 0.40–0.60). Our moderate object relations group scored at the high end of their nonclinical distribution, whereas our low object relations subgroup scored at the low end of their clinical distributions. We view our higher scoring group's object relations as moderate rather than high because their typical score was midway between the midpoint and next highest level on the rating scale, rarely achieving the highest rating level.

All of the moderate OR-C cluster participants were diagnosed positive for SCID war-zone-related PTSD. Roughly one third ($n = 15$) of the low OR-C cluster participants also were diagnosed with PTSD by SCID criteria. All other low OR-C cluster participants ($n = 31$) failed to qualify for SCID war-zone-related PTSD diagnosis. Thus, three distinct participant subgroups were identified by OR-C and SCID-PTSD status: those

with moderate OR-C levels and a SCID-PTSD diagnosis, those with low OR-C levels and a SCID-PTSD diagnosis, and those with low OR-C levels not diagnosed SCID-PTSD.

Moderate object relations participants were significantly more likely than those in either low object relations group to achieve reliable change on all four PTSD measures and on the STAI, SCL-GSI, Self-Control Schedule, Quality of Life Inventory, and the AX-In (Table 3). Rates of clinically significant change did not vary across the groups defined by OR-C and SCID-PTSD, except that significantly more moderate object relations participants (46%) showed clinically significant change on the Quality of Life Inventory than did participants in the low object relations groups with a SCID-PTSD diagnosis (0%) and without the diagnosis (7%), $\chi^2(1, N = 74)$ 10.1 and 8.4, respectively, $p < .01$.

A repeated measures multivariate analysis of covariance (MANCOVA) was conducted, with education level as covariate, object relations–PTSD group membership as a between groups independent variable, Time (pretest vs. posttest) as a within-subject independent variable, and the questionnaire outcome measures as dependent variables (Table 3). The Hotellings' multivariate F for Time was significant, but only the Mississippi, Dissociation, and AX-Out measures resulted in statistically significant univariate change. The Group Membership × Time of Testing interaction yielded a significant multivariate Hotelling's F and significant univariate Fs for all questionnaire measures except the Dissociation, BDI, Pittsburgh Sleep Quality, AX-In, and AX-Out measures. Effect sizes were small to moderate (see Table 3).

Scheffé comparisons of pretest-adjusted posttest scores showed that moderate object relations participants improved significantly ($p < .05$) more than low object relations participants on the Mississippi, Penn, IES-I, STAI, Self-Control, and Quality of Life measures. The two low object relations groups did not differ in pretest–posttest (pre-post) change. Moderate object relations participants improved significantly ($p < .05$) more than those with low object relations not diagnosed with PTSD, on the IES-A, SCL-GSI, and Anger measures. Participants with low object relations and a SCID-PTSD diagnosis were not significantly different from those in each other group in pre-post change on these measures. Overall, low object relations levels appear to be associated with poorer treatment outcome, compared with that for patients with moderate object relation levels.

OR-C as a Predictor of Changes in Inpatient and Domiciliary Services Utilization

A nonparametric approach was utilized to assess the predictive capacity of OR-C with the inpatient and domiciliary

Table 3
Multivariate and Univariate Analyses of Covariance With Self-Report Outcome Measures

Measure	Time (pre-post)[a]	Effect size	Group × Time[b]	Effect size
Multivariate ANCOVA	1.99**	0.38	4.04****	0.57
Mississippi Scale	4.04**	0.06	16.63****	0.37
Penn PTSD Scale	1.71	0.03	16.59****	0.37
IES-I	0.02	0.00	17.53****	0.38
IES-A	1.22	0.02	6.56***	0.19
Dissociation	5.23**	0.08	0.48	0.02
STAI	0.14	0.00	6.39***	0.18
BDI	0.01	0.00	0.61	0.02
SCL-GSI	0.28	0.00	10.72****	0.27
Anger	3.36	0.06	5.56***	0.16
Quality of Life Inventory	0.07	0.00	6.42***	0.18
Self-Control Scale	0.06	0.00	11.40****	0.29
Pittsburgh Sleep Quality Index	0.04	0.00	0.12	0.00
AX-In	1.42	0.02	2.95	0.09
AX-Out	4.59**	0.07	2.08	0.07

Note. ANCOVA = analysis of covariance; pre-post = pretest–posttest; Mississippi Scale = Mississippi Scale for Combat-Related PTSD; IES-I = Impact of Events Scale, Intrusive Reexperiencing subscale; IES-A = Avoidance and Emotional Numbing subscale of the IES; Dissociation = Dissociative Experiences Scale; STAI = State–Trait Anxiety Inventory, Trait score; BDI = Beck Depression Inventory; SCL-GSI = Symptom Checklist–90, Global Severity Index; Anger = Multidimensional Anger Inventory; AX-In = State–Trait Anger Expression Inventory, Internalized Anger subscale; AX-Out = State–Trait Anger Expression Inventory, Externalized Anger subscale.

[a] F tests for within-subject effects that were due to changes from pretreatment to posttreatment. For the multivariate ANCOVA, degrees of freedom (*df*s) were 14 and 44; for all other measures, *df*s were 1 and 52. [b] F tests for between-groups effects comparing participants who had moderate object relations scores and diagnoses of war-zone-related posttraumatic stress disorder on the Structured Clinical Interview for the *DSM–III*, patient version (SCID-PTSD), with participants who had low object relations scores and a SCID-PTSD diagnosis and participants who had low object relations scores but who were negative for a SCID-PTSD diagnosis. For the multivariate ANCOVA, *df*s were 28 and 86; all other *df*s were 2 and 58.

** $p < .05$. *** $p < .01$. **** $p < .001$.

services utilization measures, given their skewed distributions and extremely unequal variances across the groups defined by OR-C and PTSD. Approximately 40% of participants in each group changed from at least one inpatient psychiatric admission in the pretreatment year to none in the posttreatment year. The difference between groups in change in a dichotomous index of utilization (i.e., any utilization vs. none) was not significant, $\chi^2(6, N = 74)$ 7.0, $p = .41$, indicating that neither object relations status nor war-zone-related PTSD diagnostic status influenced treatment's impact on inpatient psychiatric services utilization.

The difference between groups in change in utilization of residential domiciliary services approached but did not reach statistical significance, $\chi^2(6, N = 74) = 11.0, p = .09$, indicating that neither object relations status nor war-zone-related PTSD diagnostic status influenced treatment's impact on domiciliary utilization. This primary source of (nonsignificant) between-groups difference appeared because the moderate object relations group used domiciliary services less often than the low object relations groups both before (i.e., 32% vs. 67%) *and* after (i.e., 19% vs. 50%) treatment—thus, not due to a differential impact of treatment on the groups.

Does OR-C Account for Unique Variance in Predicting Outcome?

The uniqueness of OR-C as a predictor of outcome was evaluated through hierarchical logistic regression analyses (Table 4) conducted with the reliable change classification for each measure as the dependent variable and one of two sets of predictors forced in first as a block (followed by OR-C in Step 2). The first set of predictors reflected psychiatric severity and chronicity. The second set evaluated the effects of demographics, initial symptom severity (pretest score on the outcome measure), trauma exposure, personality disorder status, and PTSD diagnostic status.

In the first set of hierarchical logistic regressions, the following indices of psychiatric chronicity and intensive services utilization were entered first as a block: number of admissions and total length of stay in Veterans Affairs (VA) psychiatric units in the year before PRRP treatment; total length of stay in VA homeless domiciliaries in the year before PRRP treatment; number of lifetime admissions to VA psychiatric units; and number of lifetime admissions to VA inpatient substance abuse units. The chronicity–utilization indices accounted for a statistically significant increase in R^2 for 3 measures: the Mississippi, IES-I, and Quality of Life variables. OR-C, entered in a second step, accounted for statistically significant increases in R^2 for these questionnaires and five others (Penn, STAI, SCL-GSI, Self-Control, AX-In)—separately accounting for 7%–29% of the variance in reliable change classification on these measures.

In a second set of logistic regression analyses, the first block of predictors included education level, pretest score on the outcome measure, personality disorder diagnosis, war-zone trauma level, and early childhood trauma status. This first block of predictors accounted for statistically significant R^2 changes for six measures. Pretest score was predictive in five instances (Penn, IES-I, IES-A, Quality of Life, and AX-In measures), and early trauma in one (SCL-GSI). Personality disorder diagnosis and war-zone trauma level had no statistically significant beta weights. When OR-C was entered in a second step, it accounted for statistically significant R^2 increases on all of these measures and two others (Mississippi and STAI), accounting independently for 9%–28% of the variance in reliable change classification on these nine measures.

To check on the possibility that coding object relations continuously may have exaggerated its predictive importance artifactually relative to dichotomously coded variables (i.e., personality disorder diagnosis, early trauma), the hierarchical regressions were reconducted substituting a dichotomous object relations measure (i.e., moderate vs. low OR-C cluster membership). Compared with the analyses just reported, this dichotomous object relations index was able to predict outcome (i.e., R^2 contributions, beta weights) with a virtually identical pattern and level of statistically significant findings.

OR-C as a Predictor of Treatment Completion

Six of the 74 participants prematurely terminated PRRP treatment, all within 45 days of admission ($M = 25$ days): 3 because of alcohol or other drug relapse and 3 because of nonadherence to the treatment regimen. The 6 premature terminators did not differ from the rest of the sample on any demographic or pretest variable, or on personality disorder diagnosis status. They did differ statistically significantly from completers on OR-C ratings, scoring lower as tested by the nonparametric Mann–Whitney U Test ($Z = -3.43, p < .001$; M [SD] = 1.7 [0.1] vs. 2.7 [0.9]). All premature terminators scored less than 2.0 on the 4-point OR-C scale. However, OR-C scores did not accurately predict likelihood of premature termination, because a substantial proportion of the sample of participants scoring <2.0 on OR-C completed treatment (i.e., 16 of 22 = 73%). Thus, a low OR-C score may confer risk of premature termination, but most participants with very low OR-C scores are able to complete treatment.

Discussion

Clinician-rated object relations level was a consistent and robust predictor of inpatient PTSD treatment outcome, as well as a potential indicator of risk of premature termination. Participants with moderate levels of object relations showed reliable gains on self-report questionnaires tapping (a) symptoms of PTSD, anxiety, internalized anger, and global psychiatric distress and (b) quality of life and perceived self-control, as well as reduced inpatient psychiatric utilization and (if previously homeless) consistent success in resuming independent community life. By contrast, participants with low levels of object relations, whether diagnosed with war-zone PTSD or not, failed to show change on self-report symptom or adjustment measures, although showing reduced utilization of inpatient psychiatric and domiciliary services. Hierarchical regression analyses confirmed that object relation level consistently was a strong predictor of reliable change beyond the effects of psychiatric chronicity, demographics, personality disorder, war or childhood trauma exposure, and pretest symptomatic severity or positive adjustment. OR-C, thus, appears to be a vital unique predictor of inpatient PTSD outcome.

Table 4
Prediction of Reliable Change by Hierarchic Logistic Regression

Outcome and predictor variables	Final β weights	R^2	ΔR^2	ΔF	p
Analyses controlling for psychiatric and domiciliary services utilization[a]					
Mississippi Scale					
First step: admissions	−.18	.14	.14	2.1	.08
Second step: OR-C	.56	.37	.22	21.5	.001
Penn PTSD Scale					
First step: none		.13	.13	1.9	.11
Second step: OR-C	.59	.38	.25	24.6	.001
IES-I					
First step					
Admissions	−.25	.22	.22	3.5	.01
Dom LOS	−.16				
Second step: OR-C	.39	.33	.11	10.2	.002
STAI					
First step: none		.05	.05	0.7	.62
Second step: OR-C	.40	.22	.17	12.8	.001
SCL-GSI					
First step: none		.04	.04	0.6	.72
Second step: OR-C	.63	.33	.29	25.6	.001
Quality of Life Inventory					
First step: admissions	−.36	.09	.09	1.0	.41
Second step: OR-C	.32	.14	.05	3.1	.08
Self-Control Scale					
First step: none		.08	.08	1.1	.35
Second step: OR-C	.43	.21	.13	10.1	.002
AX-In					
First step: none		.22	.22	3.3	.01
Second step: OR-C	.38	.32	.10	8.8	.004
Analyses controlling for pretest score level, personality disorder diagnosis, early childhood trauma exposure, and level of war-zone trauma exposure[b]					
Mississippi					
First step: none		.09	.09	1.5	.21
Final step: OR-C	.64	.37	.28	27.8	.001
Penn PTSD Scale					
First steps: pretest	.19	.18	.18	3.4	.01
Final step: OR-C	.55	.37	.19	19.3	.001
IES-I					
First steps: pretest	.26	.15	.15	2.9	.03
Final step: OR-C	.48	.30	.15	13.4	.001
IES-A					
First steps: pretest	.33	.13	.13	2.3	.03
Final step: OR-C	.41	.24	.12	9.6	.003
STAI					
First steps: none		.10	.10	1.3	.18
Final steps: OR-C	.46	.24	.15	11.7	.001
SCL-GSI					
First steps: early trauma	−.35	.22	.22	4.3	.004
Final step: OR-C	.55	.42	.20	21.3	.001
Quality of Life Inventory					
First steps: pretest	−.47	.22	.22	4.5	.003
Final step: OR-C	.42	.42	.20	21.2	.002
Self-Control Scale					
First steps: none		.11	.11	2.0	.10
Final step: OR-C	.40	.22	.11	8.9	.004
AX-In					
First steps: pretest	.49	.37	.37	8.8	.001
Final step: OR-C	.38	.46	.09	9.9	.003

Note. Mississippi Scale = Mississippi Scale for Combat-Related PTSD; admissions = number of inpatient admissions to Veterans Affairs (VA) Medical Center psychiatric or substance abuse units in the year before PTSD Residential Rehabilitation Program (PRRP) treatment or the year after PRRP treatment; none = no variable accounted for a significant change in R^2; OR-C = object relations clinician rating; IES-I = Impact of Events Scale, Intrusive Reexperiencing subscale; Dom LOS = total length of stay (in days) in VA homeless domiciliaries in the year before PRRP treatment; STAI = State–Trait Anxiety Inventory; SCL-GSI = Symptom Checklist–90, Global Severity Index; AX-In = State–Trait Anger Expression Inventory, Internalized Anger subscale; pretest = pretreatment score on the outcome variable; IES-A = Avoidance and Emotional Numbing subscale of the IES; early trauma = history of trauma exposure in early childhood.

[a] Predictors entered in first block (step): admissions, Dom LOS, days in inpatient VA Medical Center psychiatric or substance abuse units in the year before PRRP treatment; number of lifetime inpatient admissions to VA psychiatric units; and number of lifetime admissions to VA substance abuse units. Predictor entered in second block (step): OR-C. [b] Predictors entered in first block (step): education level; pretest; SCID personality disorder diagnostic status according to the Structured Clinical Interview for the *DSM–III*, patient version; war-zone trauma score; and early trauma. Predictor entered in second block (step): OR-C.

These findings rebut any presumption that some or all patients with chronic PTSD cannot benefit from intensive PTSD treatment. More than 1 in 3 patients achieved clinically significant gains on at least three questionnaire measures. Almost all patients achieved substantial reductions in utilization of intensive inpatient or residential treatment. This occurred despite the fact that these patients already, at admission, were functioning at a relatively high level for persons with chronic PTSD because of the program requirement of abstinence from substances and sufficient stability psychosocially and therapeutically to tolerate an intense inpatient milieu with trauma assessment and treatment. Most were in maintenance phases of care for PTSD (Ronis, Bates, Garfein, Buit, Falcon, & Liberzon, 1996), so that, despite persistent severe impairment, they probably were at relatively high levels of functioning in terms of both symptomatic distress and intensity of recent inpatient–residential services utilization (in contrast to their own histories or relative to more acutely distressed psychiatric or PTSD inpatients; Fontana & Rosenheck, 1994). Given the deteriorating course of chronic PTSD (Friedman & Rosenheck, 1996), their posttest questionnaire scores and levels of inpatient–residential service utilization should worsen unless treatment somehow modifies the negative trajectory (Johnson et al., 1996). We found, at most, moderate deterioration at posttest, and these were the exceptions. Most patients remained unchanged by self-report and engaged actively in outpatient maintenance care with even fewer episodes of costly inpatient or residential crisis care in the year after PRRP treatment.

Moreover, patients with relatively functional levels of object relations were more likely to achieve reliable positive change than not, and—in spite of equally severe PTSD, psychiatric, and psychosocial impairment and chronicity—clearly were more able to make gains than low object relations patients. This finding is consistent with studies of treatment of other psychiatric populations (Hull et al., 1993; Piper, Azim, Joyce, McCallum, 1993; Piper, Azim, Joyce, McCallum, et al., 1991; Piper, Azim, McCallum, & Joyce, 1990). Higher object relations patients may need the challenge and structure of a combined cognitive–behavioral and existential approach to confronting trauma memories, so as to engage in and complete psychotherapy (Blatt & Ford, 1994; Hilsenroth, Handler, Toman, & Padawer, 1995). Lower object relations patients, especially when characterized by primary characterologic dependency and avoidance (e.g., Hardy et al., 1995), may better respond to and complete therapy emphasizing containment of overwhelming and diffuse affective turmoil, without the potentially overstimulating education and challenge of trauma focus work—for example, an interpersonal model (Frank & Spanier, 1995) or dialectic behavior therapy (e.g., Linehan, Tutek, Heard, & Armstrong, 1994).

For clinicians to achieve the desiderata of fear reduction, emotion processing, and narrative memory enhancement (Foa et al., 1995), PTSD treatment may need to attend not only to patients' trauma memories and trauma-related beliefs or schemata (e.g., McCann & Pearlman, 1990) but moreover to their fundamental object relational beliefs about and capacities to self-regulate in emotionally charged relationships (Kohut & Wolf, 1978). Individuals with impaired object relations may experience PTSD symptoms or trauma memories as not only distressing but as an overwhelming assault by a confusing and malevolent world, hence possibly being at risk for the problems of regulation of affect, consciousness, and somatic functioning identified as complex PTSD or "disorders of extreme stress" (van der Kolk et al., 1996). They also may experience people as valueless or omnipotent, or untrustworthy and harmful, hence possibly faring poorly in therapy and in life because of extreme avoidance, social detachment, or hypervigilance symptoms.

All PTSD patients benefit from sensitive and supportive clinical care and informative psychoeducation, but those with poorer object relations also may need assistance in fundamentally reevaluating how they relate to other people and to their own selves and emotions. Thus, the PRRP milieu was structured as a supportive "holding environment" (Winnicott, 1986), and empathic self-focused interpretation (Kohut & Wolf, 1978) was offered to titrate the intensity of trauma focus work. PRRP clinicians noted that patients with lower object relations levels tended to recall war-zone trauma experiences through a primitive psychic lens in which terror, guilt, shame, rage, and despair seemed not just intense but overwhelming or annihilating. When helped to empathically recognize core-conflictual themes (Crits-Cristoph & Connolly, 1995) and traumagenic dynamics (Browne & Finkelhor, 1986) such as betrayal, abandonment, powerlessness, and stigmatization, these men anecdotally described both trauma-specific and general autobiographical memories with greater narrative clarity and coherence (Foa, Molnar, & Cashman, 1995; van der Kolk & Fisler, 1995). Low object relations patients, nevertheless, only rarely were able to engage in direct therapeutic exposure without extreme reexperiencing and avoidance symptoms, and they experienced symptomatic worsening over the course of treatment.

Object relations also may serve as a mediator variable, helping to elucidate fundamental affect regulation and interpersonal engagement processes underlying personality disorders' moderating effects on treatment outcome. Patients with personality disorders tend to be poor candidates for many psychotherapies (Clopton, Weddige, Contreras, Flisjar, & Arrenbonito, 1993; Nace & Davis, 1993; Reich & Vasile, 1993). Although personality disorder diagnosis predicted of poorer outcome, object relations accounted for this outcome variance and more. Regardless of theoretical model, "diagnosis of a personality disorder represents a first step but is not sufficient for the effective planning of therapy. While diagnoses are descriptive generalizations, formulations are efforts at particular explanatory models" (Horowitz, Eells, Singer, & Salovey, 1995, p. 625). Object relations assessment may offer an efficient basis for psychotherapeutic formulations in the treatment of chronic PTSD.

Symptomatic distress is not necessarily a contraindication for or negative predictor of PTSD treatment. Consistent with prior findings with incest survivors (Follette, Alexander, & Follette, 1991) and mixed psychiatric disorders (Diguer et al., 1993; Elkin et al., 1995; Hardy et al., 1995), baseline symptom severity often predicted reliable treatment outcome. However, in chronically impaired patient samples, symptomatic severity may have limited variance because of uniformly high levels (Blatt & Ford, 1994; Hilsenroth et al., 1995). With this population, object relations may have the requisite variability to permit detection of patients at risk for poorer outcome or premature termination. Further study is warranted to determine why only some patients

with very low object relations drop out or deteriorate in treatment, so as to permit accurate screening and matching of patients with optimal treatment interventions. Our findings do not warrant ruling out even very low object relations patients from treatment, but they suggest that these patients achieve less symptom reduction in inpatient PTSD treatment than patients with higher object relations levels. Our clinical observations of treatment with low object relations patients suggest the possibility, which could be tested in future research, that these patients derive greatest benefit when matched (e.g., Shea et al., 1990) with treatment focusing on developing and maintaining basic social support connections and life management competences.

We agree with Johnson et al. (1996) that long-term inpatient PTSD treatment should not be reified as the certain and only approach to the rehabilitation of chronic PTSD. Many patients may better be served by ongoing outpatient or community-based care promoting successful community reintegration, with inpatient episodes reserved for brief intensive evaluations or crises. With chronic alcoholism (which is highly comorbid with PTSD), inpatient readmission is related to socioeconomic instability (e.g., unemployment) and psychiatric severity (Booth, Yates, Petty, & Brown, 1991; Moos, Brennan, & Mertens, 1994), whereas length of stay in transitional community residential settings appears to be a critical protective intervention (Moos & Moos, 1995). This finding warrants replication with chronic PTSD patients with low object relations.

Several limitations of this study warrant attention in interpreting its findings and in drawing implications for future research. The findings are limited to one PTSD treatment program and, therefore, require replication with sufficient *N*s to detect small to moderate effect sizes (i.e., .20–40). Replication in different approaches to PTSD treatment, varying both the theoretical models and the specific programmatic approaches utilized, will be an important step toward moving from the limited prognostic findings of this study to a prescriptive empirical basis for matching clients with optimal treatment. Furthermore, the population under study comprised male veterans, and therefore our findings cannot be assumed to generalize to treatment outcome with women or with survivors of adult civilian trauma with chronic PTSD.

In addition to the immediate posttest utilized in this study, long-term psychometric outcomes should be assessed across a series of longitudinal follow-up administrations. Self-report data should be supplemented by structured interview data from independent evaluators to assess PTSD and psychiatric diagnoses and symptomatic severity. Services utilization data should draw on a broader network of VA, state mental health, and private psychiatric facility databases to assess both appropriate and inappropriate inpatient, outpatient, and emergency psychiatric and medical care (Ronis et al., 1996). Indices of participation in social support systems (e.g., 12-step meetings, ongoing involvement with friends and community groups, family relationships, work) also are needed to identify if, how, and for whom treatment facilitates improved therapeutic engagement and sociovocational adjustment. Potential mediating variables also warrant investigation, to clarify the nature of the relationship between object relations and PTSD treatment outcome, such as the role of specific styles of coping with stress, regulating and processing emotions, and engaging and resolving problems in current interpersonal relationships.

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Received August 15, 1996
Revision received December 3, 1996
Accepted December 26, 1996 ■

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The Publications and Communications Board has opened nominations for the editorships of **Experimental and Clinical Psychopharmacology, Journal of Experimental Psychology: Human Perception and Performance (JEP:HPP), Journal of Counseling Psychology,** and **Clinician's Research Digest** for the years 2000–2005. Charles R. Schuster, PhD, Thomas H. Carr, PhD, Clara E. Hill, PhD, and Douglas K. Snyder, PhD, respectively, are the incumbent editors.

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